II) Please amend claims 1 to 26 as set forth below:

(Currently Amended) 1. A liquid crystal display (LCD) system implemented with a thermal control and management system ~~for a microdisplay~~ comprising

a temperature sensor system disposed directly onboard of a silicon die of a LCD microdisplay device for directly measuring a temperature of said microdisplay device and generating a temperature measurement signal; ~~and~~

a microdisplay controller for controlling voltages of said microdisplay device and receiving said temperature signal for transmitting a digital signal to a system processor; and

~~a data processing means having a voltage database for receiving and processing said temperature measurement signal by employing said voltage database~~ said system processor processing said digital signal corresponding to said temperature of said microdisplay device to generate ~~a~~ temperature-dependent reference signals ~~voltages~~ for inputting to a said microdisplay controller for controlling said voltages of said microdisplay device in response ~~to operating said microdisplay system most suitable for~~ said temperature measurement signal.

(Currently Amended) 2. The ~~thermal control and management~~ LCD system of claim 1 wherein:

said system processor inputting said temperature dependent reference signals into a multiplexer of said microdisplay controller for ~~data processing means~~ generating a temperature-dependent black state voltage and a white state voltage ~~as said temperature-dependent reference~~ for controlling said voltages of said microdisplay device in response to ~~most suitable for~~ said temperature measurement signal.

(Currently Amended) 3. The ~~thermal control and management~~ LCD system of claim 1 wherein:

said ~~data processing means~~ microdisplay controller further includes control register for loading and reading said temperature measurement signal as a digital word.

(Currently Amended) 4. The ~~thermal control and management~~ LCD system of claim ~~1~~ 3 wherein:

said ~~data processing means~~ microdisplay controller further includes a digital-to-analog converter (DAC) ~~output circuits~~ for ~~outputting~~ converting said temperature dependent ~~reference~~ signals received from said temperature sensor system as temperature dependent voltages.

(Currently Amended) 5. The ~~thermal control and management~~ LCD system of claim 1 wherein:

said ~~data processing means~~ system processor further ~~includes an interpolation means for~~ interpolating between two data in ~~said~~ a database for generating said temperature dependent reference signals for inputting to said microdisplay controller ~~voltages~~.

(Currently Amended) 6. The ~~thermal control and management~~ LCD system of claim 1 wherein:

said temperature sensor system further ~~includes a temperature senor embedded in said microdisplay~~ integrated as an integrated circuit chip for disposed directly onboard of a silicon die of said LCD microdisplay device.

(Currently Amended) 7. The ~~thermal control and management~~ LCD system of claim 1 wherein:

said temperature sensor system further comprising a PTAT temperature senor system and integrated as an IC chip for disposed directly onboard of a silicon die of said LCD microdisplay device.

(Currently Amended) 8. The ~~thermal control and management~~ LCD system of claim 1 wherein:

said system processor further includes ~~system processor data processing means further includes~~ an additional cooling activating system to activate additional cooling for said LCD microdisplay device ~~according to~~ in response to said temperature measurement signal.

(Currently Amended) 9. The ~~thermal control and management~~ LCD system of claim 1 wherein:

said system processor further ~~includes a means for~~ determining if said temperature measurement signal is within a ~~reasonable~~ predefined range.

(Currently Amended) 10. The ~~thermal control and management~~ LCD system of claim 1 wherein:

said system processor further ~~includes a means for~~ receiving and processing said temperature measurement signal to function as a part of a Peltier thermal control loop.

(Currently Amended) 11. The ~~thermal control and management~~ LCD system of claim 1 wherein:

said microdisplay controller controlling said voltages of said microdisplay device in response to ~~a data processing means generating a temperature-dependent reference voltages most suitable for~~ said temperature measurement signal for operating said LCD microdisplay device ~~system~~ as a liquid crystal display device of a normally white mode device.

(Currently Amended) 12. The ~~thermal control and management~~ LCD system of claim 1 wherein:

said microdisplay controller controlling said voltages of said microdisplay device in response to ~~a data processing means generating a temperature-dependent reference voltages most suitable for~~ said temperature measurement signal for operating said LCD microdisplay device ~~system~~ as a liquid crystal display device of a normally black mode device.

(Currently Amended) 13. The ~~thermal control and management~~ LCD system of claim 4 wherein:

said DAC ~~are~~ further comprising a resistor digital to analog ~~analogy~~ converter (RDAC).

(Currently Amended) 14. A liquid crystal display (LCD) ~~microdisplay~~ system comprising:

a thermal control and management system having a voltage database for receiving and processing a microdisplay temperature measurement signal for said ~~microdisplay~~ LCD system by employing said voltage database to generate a temperature-dependent reference voltages for inputting to multiplexer of a microdisplay controller for controlling a high and a low voltages and a DC balancing of said LCD display system ~~operating said microdisplay system most suitable for said temperature measurement signal~~.

(Currently Amended) 15. The liquid crystal display (LCD) ~~microdisplay~~ system of claim 14 wherein:

said microdisplay controller further ~~thermal control and management system further includes a data processing means for~~ generating a temperature-dependent black state voltage and a white state voltage as said temperature-dependent reference voltages ~~for operating said microdisplay system most suitable for~~ in response to said temperature measurement signal and said DC balancing.

(Currently Amended) 16. The liquid crystal display (LCD) ~~microdisplay~~ system of claim 15 wherein:

said microdisplay controller further ~~data processing means~~ further includes a control register for loading and reading said temperature measurement signal.

(Currently Amended) 17. The liquid crystal display (LCD) ~~microdisplay~~ system of claim 15 wherein:

said ~~data processing means~~ system processor further includes DAC output circuits for outputting said temperature dependent reference voltages.

(Currently Amended) 18. The liquid crystal display (LCD) ~~microdisplay~~ system of claim 15 wherein:

said ~~data processing means~~ system processor further ~~includes an interpolation means for~~ interpolating between two data in said database for generating said temperature dependent reference voltages.

(Currently Amended) 19. The liquid crystal display (LCD) ~~microdisplay~~ system of claim 14 further comprising:

said temperature sensor system further ~~having a temperature senor embedded in said microdisplay~~ integrated as an integrated circuit chip for disposed directly onboard of a silicon die of a LCD microdisplay device in said LCD system.

(Currently Amended) 20. A method for temperature control and compensation for a microdisplay system comprising:

receiving and processing a microdisplay temperature measurement signal from said microdisplay system by employing a voltage database to generate a temperature-dependent reference voltages; and

inputting said temperature-dependent reference voltages into a multiplexer of a microdisplay DC-balancing controller for controlling voltages of said ~~operating~~ said microdisplay system in response to ~~most suitable for~~ said temperature measurement signal.

(Currently Amended) 21. The method of claim 20 further comprising:

said step of generating said temperature-dependent reference voltages further comprising a step of multiplexing and generating a temperature-dependent black state voltage and a white state voltage according to a DC balancing state for controlling voltages of said ~~operating~~ said microdisplay system in response to ~~most suitable for~~ said temperature measurement signal.

(Currently Amended) 22. The method of claim 20 wherein:

said step of receiving and processing said temperature measurement signal from said microdisplay further includes a step of receiving said temperature measurement signal into a ~~data processing means~~ system processor having a control register for loading and reading said temperature measurement signal.

(Currently Amended) 23. The method of claim 20 wherein:

said step of generating said temperature-dependent reference voltages ~~for operating said microdisplay system~~ further comprising a step of outputting said temperature-dependent reference voltages through DAC output circuits to said multiplexer.

(Currently Amended) 24. The method of claim 20 wherein:

said step employing said voltage database for generating said temperature-dependent reference voltages further comprising a step of applying said temperature measurement signal for interpolating between two data in said database for generating said temperature dependent reference voltages.

(Currently Amended) 25. The method of claim 20 further comprising:

employing a temperature sensor system integrated as an integrated circuit chip for disposed directly onboard of a silicon die of a LCD microdisplay device of said microdisplay system ~~having a temperature senor embedded in said microdisplay~~.

(Currently Amended) 26. The method of claim 20 wherein:

said step employing said voltage database for generating said temperature-dependent reference voltages further comprising a step of applying said temperature measurement signal for carrying out a curve-fitting algorithm using data in said database for generating said temperature dependent reference voltages.